Zooarchaeology and the Elusive Feast: from Performance to Aftermath

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ABSTRACT: Ethnographic descriptions of feasts reveal that consumption of meat is usually prominent. Zooarchaeological evidence may thus provide the best way of seeing feasts in the archaeological record. The accumulation of trophy arrays and ongoing high-status activities are confusing behaviours that may be misconstrued as archaeological evidence of feasts. A four-fold classification of zooarchaeological evidence for feasts is put forward: 'over the top' (high status); 'ritually charged garbage' (often religious); 'small but special' (nevertheless sometimes visible); and 'was this feasting?' (sometimes equivocal). This typology may allow archaeologists to distinguish between the ethnographic categories of competitive feasts and solidarity feasts.

KEYWORDS: feasting, zooarchaeology, taphonomy, high status, performance, aftermath

INTRODUCTION

"It is an archaeological truth almost universally acknowledged that when one comes across a deposit that is incomprehensible it immediately enters the realm of 'ritual'." (Ikram 2002, 41).

"The religious, the symbolic and the economic are all inextricably combined" (Grant 1991, 110).

Feasting is a topic quite commonly discussed by archaeologists. I argue here that we are nevertheless not very good at dealing with it. The quotes above (both from eminent zooarchaeologists) sum up the problems. Salima Ikram points out how ready we are to resort to the 'R' word when we find something odd, Annie Grant that we cannot even define what the 'R' word means. No wonder we are in a state of confusion.

Archaeologists approach feasting from two different perspectives. Ethnoarchaeologists engage with the *performance*: they examine contemporary feasting, subdivide feasts into types, and discuss the social outcomes. The feast itself is the focus, with less consideration given to the archaeological outcome. Excavators and zooarchaeologists however encounter the *aftermath*: unusual or 'special' deposits which they sometimes interpret as the residues of feasts.

Here I attempt a typology of archaeological manifestations of feasting, and try to relate that to ethnoarchaeological classifications. Meat is commonly consumed at observed feasts, so zooarchaeological evidence is a major source of information, but is of course best linked to other lines of evidence where possible. Feasting is often quite difficult to demonstrate unequivocally. Some lines of archaeological evidence are at best dubious, while some demonstrably derive from other activities. Needless to say, I do not seek to resolve the problems, but merely hope to further the discussion and open up areas for further consideration.

WHAT IS A FEAST?

Feasts have been defined in various ways. Most definitions are characterised by two things: the *sharing* of food, which is in some way *unusual*. Martin Jones (2007) points out that the killing of large animals results in more food than one human can eat. He argues that food preparation reinforces this: people sit together round a hearth while meat is roasting, during which time they communicate and make eye contact with each other.

All animals except the very smallest provide more meat than two people can eat, so Jones's definition of a feast implies that at least a moderate number of participants were involved. This is also an aspect of some other definitions; Smith (2015, 1216), for example, defines a feast as "a larger-than-quotidian meal that often incorporates distinctive foods, labor-intensive modes of preparation, and special-purpose serving utensils". Some other definitions however lower the number of potential participants to as few as two people. Hayden defines a feast as 'any sharing between two or more people of a meal featuring some special foods or unusual quantities of foods (i.e., foods or quantities not generally served at daily meals)' (Hayden 2014, 8; also 2001, 28 and 2016, 18). Twiss (2008) cites ethnographic examples of from two to thousands, and ranging from simple to elaborate, adding that this makes a feast more difficult to define as different from everyday consumption.

Defined thus, feasting covers a huge variety of activities. Size varies from two people to thousands. As a general principle, the larger the feasts, the more seldom they occur. We can see this easily in our own society, with feasts ranging in size and frequency from the Sunday roast (weekly); through university matriculation feasts (seasonal); Christmas dinner (annual); wedding breakfasts (occasional); to the coronation of a monarch (generational). The smallest scale of feast may occur very frequently. In Late Medieval Europe, meat was eaten only on Christian festival days, but since there were over 100 in the calendar, meat was eaten (by those with access to it) at least twice a week (Serjeantson 2006, 131).

Special foods are the other aspect commonly included in definitions. But what foods are regarded as special, and by whom, varies enormously from society to society. Among people for whom sheep are routine food, the slaughter of a cow might give rise to a feast; but when people eat mainly potatoes, even a sheep may form a feast. The Gonja of Ghana mostly eat porridge made of millet or yams, and for them a feast 'is a matter of more of the same (but especially more meat) rather than an occasion of meals making use of different constituents' (Goody 1982, 78).

What constitutes special food can also vary between different groups or strata *within* a society. The everyday fare of a Persian satrap or Victorian mill owner might form a magnificent feast if given to a peasant or industrial worker. Elites with adventurous tastes produce or import exotic or unusual foodstuffs. Elite status is signalled by who gets what, as some common English expressions attest: at a medieval feast those seated 'below the salt' were of lower status, and 'ate humble pie' – the *noumbles* or *umbles* were the entrails of a deer. The lord at the 'high table' of course got the best cuts of venison (Goody 1982, 142).

Feasts are thus very difficult to define as a separate category. The small ones merge into normal everyday eating. An ethnographic definition is that they are 'consciously distinguished from everyday meals' (Twiss 2008, 419), but as archaeologists we do not have the luxury of consulting our informants: we must rely on the material traces. For present purposes this paper will therefore rely on the twin attributes of the *sharing* of foods which are *unusual* as the definition of a feast. Archaeologists have often concentrated on recognising larger feasts, which has meant that we overlook smaller ones (Twiss 2015, 94). The smaller ones are harder to see, to be sure, but I will argue below that there are ways in which feasts as small as Jones's (2007) sharing of individual animals may be discernable against the backdrop of general archaeological refuse.

In the following sections I will use a variety of archaeological examples to highlight some problems and some solutions. There are myriad examples and claims in the literature, and I consciously choose examples that best exemplify the issue being discussed; I make no attempt to present a comprehensive review.

ARCHAEOLOGICAL APPROACHES TO FEASTING

Generalisations about archaeological feasting residues are rather rare. To be sure, some archaeological traditions are better served than others – the Aegean, for example (e.g. papers in Halstead and Barrett 2004; Mee and Renard 2007). But many generalisations just form short afterthoughts to lengthy anthropological discussions. Ethnoarchaeologists are often pessimistic about the archaeological utility of their classifications; the editors of one influential volume state that 'the permutations of ritual practices that are used to mark feasts off from everyday meals, and those that are used to mark off social classes in "diacritical" feasts suggest that uniform typologies of material signatures may not help us much beyond the mere identification of the existence of feasting' (Dietler and Hayden 2001, 5).

Some suggestions have been put forward. For example, Kirch (2001, 180) argues that feasts in Hawaii should be detectable archaeologically via spatially differentiated

discard: refuse pits associated with temples should contain special dietary items like pig and dog bones. Hayden (2016) argues that in Southeast Asia at least, *all* animals are killed for feasts of various kinds, so that 'when domestic bones… are uncovered in excavations, archaeologists should begin to ask themselves what kinds of feasts they represent' (op. cit., 60). Sheer abundance of faunal remains may be enough to identify feasting (Hayden 2001, 47; 2011, 36-42). Hayden also suggests that ethnographically-documented practices such as the trophying of some bones, or of particular people receiving bones from particular sides of animals, might be visible archaeologically (Hayden 2016, 61).

It is arguable how helpful such criteria are. The taphonomy of animal bone accumulation is complex: the quantity of bones excavated bears at best an indirect relationship to the number of animals slaughtered. Large numbers of bones may accumulate as normal refuse in taphonomic traps. Trophying is problematic, and will be discussed at length below. Spatially differentiated discard is a useful avenue of exploration. Left/right distinctions are attested among various modern groups; for example the Dafla of NE India sacrifice *mithan* cattle, and award the chief priest the left forelimb (Simoons 1968, 59). For this practice to be visible archaeologically, spatially distinct deposition would be necessary. This would not occur on normal settlements with continuous refuse discard, but some cases are known. Goat sacrifices at Kourion led to the deposition of mainly right hindlimbs in the Sanctuary of Apollo (Davis 1996). In medieval England, there is documentary evidence that deer haunches (the rear limb minus the pelvis) were usually consumed in the high-status dwelling of the landowner; the left forelimb was gifted to the forester or parker, the right forelimb to the huntsman (Sykes 2007). High-status sites do indeed contain predominantly rear limbs (see further discussion below). Foresters were given their own residences, some of which have been excavated, and these have yielded mainly left forelimbs. Huntsmen were not however given residences, but lived among the general population; and no deer assemblages contain predominantly right forelimbs, since their bones presumably disappeared into the general refuse (Sykes op. cit.). Whether this patterning necessarily represents feasting is another matter – neither Sykes (2007) not Davis (1996) make such a claim. This will be further discussed below.

To further explore the problems with feasting's archaeological visibility, three areas are briefly considered in the following, involving varying proportions of anthropological and archaeological information.

The Northwest Coast of North America has one of anthropology's best documented feasting traditions. Potlatch feasts have been the subject of countless discussions. Franz Boas attended a Kwakiutl potlatch in 1895 and described its implications at length (Boas 1897). Numerous major discussions have followed, for example by Drucker (1940), Rosman and Rubel (1971), Suttles (1991), Perodie (2001), and many others. The archaeological residues from potlatches are however hardly ever discussed. Hayden (2014, 97) notes that "there are surprisingly few good examples from the Northwest Coast, given the intense feasting activity we know took place there". He cites central hearths in some houses, and carved antler spoons in burials at Pender Island, as possible evidence of feasting. But hearths need not be connected with feasts, and antler spoons were found in just five of the 150 burials at Pender Island (Carlson 2011). In a major discussion of Northwest Coast socioeconomic complexity, Ames hardly considers evidence for potlatching, stating that 'generally,

however, workers on the coast are reluctant to speculate on the history of the potlatch' (Ames 1994, 223). This massive feasting tradition is thus virtually invisible archaeologically.

Medieval Ireland has ethnohistorical evidence for elaborate feasting, kings and nobles using feasts to bolster their status and authority (O'Sullivan 2004). There were strict rules under the *coé* hospitality system about who received what portion of an animal. At the high king's feasts at Tara, the king of course received the tenderloin and fillet. Some 45 other distinct portions of an ox were specified; for example scholars received a rump steak, physicians a knee, and buffoons a shank (McCormick 2002, fig. 4.1). These elaborate patterns do not however survive in the archaeological record, despite being actively sought. At high-status settlements such as Moynagh, Navan, Dún Ailinne, and Tara itself all the refuse has been blended and averaged (McCormick 2002, 2009) – and consumption probably was too: 'is it really to be believed that high-status households could only have consumed meat when such a feast was organised? This seems unlikely. It seems more likely that some of the foodstuffs given to the lord as part of the *coé* obligations were outside this system' (McCormick 2002, 30).

The Epipalaeolithic of the Near East has been argued to have practiced feasting (Hayden 2011). Various lines of evidence are put forward, including unusually large hearths; unusually large quantities of faunal remains; speciality foods including the storage of large numbers of gazelle for feasts; surplus production of foodstuffs; and special feasting locations and paraphernalia. None of these is however conclusive. Gazelle meat was probably stored (e.g. Legge and Rowley-Conwy 2000), but this does not necessarily mean that it was eaten at feasts. What constitutes a feasting location, surplus production, or unusual quantities of animal bones, remains unclear. The archaeological evidence is at best circumstantial.

In all these three cases, zooarchaeological and other evidence for feasting is thus problematic.

ONGOING SOURCES OF CONFUSION

Zooarchaeologists often resort to explanations involving ritual activities when faced with unusual deposits (see the quote from Salima Ikram above). Unusual deposits may however result from ongoing processes, not feasts. Two such are considered here.

(a) ongoing trophy accumulations

Hayden (2016, 61) has argued that the trophying of some bones indicates feasting, and might be visible archaeologically. Trophying is however a complex and variable activity. While arrays may result from feasting, they certainly do not have to – and in particular, trophy arrays give no indication of the *scale* of any feast.

Many societies accumulate animal parts in trophy arrays. Among the best known are the pig mandible arrays from New Guinea. Many New Guinea societies have major pig feasts at intervals of several years. These huge kills are prominent in the

anthropological literature. But there are also numerous smaller events involving one or a few pigs, so killing is not restricted just to the large feasts. Table 1 lists some recorded pig kills, the largest coming from occasional feasts.

Table 2 presents numbers of pig mandibles trophied in various places. Exact quantification is rare, so table 2 can only hint at the range. The Mountain-Ok trophied spectacular numbers, recorded in detail by Craig (1969, 2, 1-23). Such numbers clearly cannot derive from a single feast, even of the largest magnitude, but are accumulated from multiple events of different sizes over many years.

Cattle heads (bucrania) are also sometimes trophied. Stone carvings of bucrania on Roman temples hark back to the days when actual heads were hung on wooden temples (Loth 2013), and Late Neolithic tombs in Sardinia have many carvings (Robin 2017). In Sulawesi water buffalo bucrania are trophied by the Toraja. Adams (2004) states that most funerals involve the slaughter of a single water buffalo and a pig; the largest involve 16 water buffalo and 36 pigs, but only two of these have taken place in 87 years (Adams 2004, 65). One Toraja house however has a display of about 100 water buffalo bucrania (Adams op. cit., fig. 4), so these must have been accumulated over many years and give no indication of the scale of any events.

Trophy arrays are above ground, and their visibility in the archaeological record is uncertain. The long-term fate of the New Guinea trophy arrays is not clear, but if they remained above ground and gradually decayed they might not be visible archaeologically. The Mountain-Ok made every effort to maintain and enlarge their arrays, and moved them into new houses when necessary (Barry Craig, personal communication 12 Sept 2017).

Trophied bucrania are however sometimes placed in burials and might survive. The Naga of northeastern India slaughter single *mithan* cattle at feasts hosted by individuals. The bucrania are trophied, and when a man dies ‘his mithan skulls… are also displayed in the grave’ (Simoons 1968, 124). In Madagascar, four or five cattle are usually sacrificed at a funerary feast, and others are killed over the next year or more to feed the people working on the tomb. Of 23 recorded tombs, 18 have more than five bucrania (Parker Pearson 2010, 34-35 and fig. 9.26). While these bucrania do derive from small feasts, the tomb groups are thus amalgamations of larger numbers than just those killed for the funerary feast.

Not all animals in a burial therefore necessarily derive from a funerary feast. In some archaeological instances it can be demonstrated that they did not. An Early Bronze Age barrow at Irthlingborough in England produced 185 cattle skulls, and smaller numbers of mandibles, scapulae and pelves (Davis and Payne 1993). Hayden (2014, 223) regards these as the remains of a feast, but the evidence suggests otherwise. Most of the premolars are missing. These teeth are much less firmly rooted in the skull than the molars, and their absence suggests that the skulls were exposed long enough for them to decay and for the teeth to fall out, so that ‘the skulls and bones were placed on the cairn some time after the animals were killed’ (Davis and Payne 1993, 17). The skulls were thus probably trophied before being deposited in the burial. Any feast might have involved fewer cattle, or possibly none at all. Radiocarbon dating suggests that the remains accumulated over a long period. One of the teeth was dated to 2460-2140 cal BC, while the human in the burial gave 2140-

1988 cal BC, which scarcely overlap. An aurochs was dated even earlier, to 2860-2470 cal BC (op. cit., table 2), so this skull 'might have been a valued antique' (op. cit., 20).

Another example involves pigs from the island of Gotland in the Baltic. Three Neolithic graves contained respectively 19, 46, and 46 mandibles (Rowley-Conwy and Dobney 2007). Once again Hayden (2014, 221) regards these as funerary feasts. However, the pigs were probably wild (Rowley-Conwy et al. 2012), and therefore could not have been hunted 'to order' for a funerary feast (Rowley-Conwy and Storå 1997). Furthermore, tooth eruption reveals that the animals were killed throughout the year (Rowley-Conwy and Dobney 2007, fig. 7.16). They therefore demonstrably do not derive from a single killing event. These animals were thus definitely not consumed in a funerary feast.

This raises questions about other funerary assemblages. At Kerma in Sudan, some burials dated 2500-1500 BC contain spectacular numbers of cattle bucrania. Grave 253 has no fewer than 4899; grave 238 has 343; and grave 24 has 241 (Chaix et al. 2012). These might be the remains of funerary feasts involving several herds (Chaix et al. 2012, 204; Chaix and Grant 1992; Hayden 2014, 291), but Louis Chaix however notes that the bucrania might have been trophied before the burial (Chaix 1986, 299; 2017, 421). The slaughter of nearly 5000 cattle seems an impossibly large event for one funeral, however important the individual. It is much more likely that the Kerma bucrania were similarly trophied possibly for several human generations before they were deposited at the grave.

Some deposits involving small numbers of animals form more convincing funerary feasts. At the specialised mortuary site of Kfar HaHoresh in Israel, dating to the pre-pottery Neolithic, remains of eight aurochs were found placed in a pit. The main meat-bearing elements were most common; this emphasis on meat, and the fact that the pit was directly beneath a human burial, suggest that a funerary feast took place. The skulls were not present, and may have been trophied (Goring-Morris and Horwitz 2007). More equivocal is the pit beneath the Neolithic long mound at Er Grah Neolithic in Brittany. This contained the articulated skeletons of two domestic cattle. Preservation was very poor, so it was impossible to see cutmarks and discern whether the animals had been defleshed (Tresset and Vigne 2006). It remains uncertain whether the animals were feasted upon, or were a votive or dedicatory deposit of some kind.

Trophy arrays and animal bones in burials are thus potentially complex. Many anthropological examples do derive from feasts, occasionally large, more often small. Some large feasts no doubt led to many items being trophied at one time. The Naga example however shows that the number of bucrania in each grave bears no relation to the size of a feast, and the Irthlingborough and Gotland assemblages were demonstrably not from feasts.

(b) ongoing high-status activities

Zooarchaeology can sometimes detect high status sites or individuals. Ervynck at al. (2003, 429) define affluence as consumption beyond basic needs, and luxury as the consumption of 'goods that are special, limited in supply, difficult to procure or very

expensive.' Luxury foods are often visible in the archaeological record – but were they necessarily consumed in feasts? It was pointed out above that what constitutes a feast for a peasant might just be a satrap's daily fare. Some examples of this problem will be discussed.

Hawaiian society was hierarchical. Various excavations have revealed that elite houses had many dog and chicken bones, and the choicest cuts of pork, while houses of commoners had poorer parts of the pig skeleton, and more low-status rats and shellfish (Kirch and O'Day 2003; Weisler and Kirch 1985). This did not indicate feasting, however, but 'regular instances of sumptuary consumption by elites become commonplace; indeed, such consumption patterns were frequently used symbolically to define eliteness' (Kirch and O'Day 2003, 484). So regular was the consumption of large quantities of high-status foods that corpulence was a desirable elite attribute (op. cit., 486).

The Makah on the Northwest Coast were also hierarchical. At Ozette, house 1 was inhabited by high-status individuals, because bones of halibut (a high-status resource) were more common (Huelsbeck 1994). House 1 also had fewer low-status shellfish, except in the NE corner, where the highest-status family would have lived – but the shellfish were of exotic species, used for display purposes (Wessen 1994). The Makah are known to have potlatched (Swan 1870, 13-15), but feasting cannot be responsible for the pattern.

Roman diets varied. Sometimes military officers ate better diets than their men: at South Shields Roman fort in England, the commandant's house contained the only red deer, roe deer and hare bones, and also more chicken, geese and ducks (and fewer sheep) than the barracks. Both areas yielded cattle bones, but the commandant had more of the best cuts, while the men in the barracks got more of the feet (Stokes 2000). This must have been a routine procedure for it to be visible in the archaeological record.

Medieval Britain provides various examples. The Earl of Huntingdon's town house in Leicester produced species not found elsewhere in the town: red, fallow and roe deer, hare, duck, woodcock and pigeons (Gidney 2000). Pigs are more common on high-status medieval sites; Grant (2002, 18) argues that since pigs have no secondary products like milk, wool or traction, their owners were demonstrating that they were wealthy enough to rear animals just for their meat. It was mentioned above that deer haunches – the meaty rear limb – are common at high-status sites such as castles (Sykes 2007, Davis 2008). Examples include Sandal Castle (Griffith et al. 1983) and Launceston Castle (Albarella and Davis 1996). Haunches of venison were evidently routinely brought in to grace the lords' tables.

These examples are probably all activities that were not unusual for the people who indulged in them, and which therefore do not qualify as feasts.

ZOOARCHAEOLOGICAL CATEGORIES OF FEASTS

Zooarchaeological examples of feasts have been claimed, based on special deposits or unusual treatment of bones. The claims vary: some are pretty clear, others more

equivocal. This section attempts to group claims into four main categories based on their archaeological attributes.

(a) over the top (OTT) feasts

OTT feasts occur in high-status contexts. In the three following examples the archaeological traces stand out as unusual even against the normal ongoing high-status activities.

Cahokia in Illinois is a major mound site which grew rapidly after AD 1050. It has been described as 'a nascent city' (Brown and Kelly 2015, 222), with a population estimated at 10,000 – 20,000, with several thousand more people in the near vicinity (Young and Fowler 2000). Most contemporary sites in the Mississippi Valley have faunal assemblages dominated by fish, with deer at around 10%, but at Cahokia deer increase rapidly to over 60% at AD 1050. The site was evidently being provisioned because low-utility parts of deer are rare, presumably discarded during initial butchery elsewhere. Inside Cahokia, elite areas received the high-utility hindquarters (just like British high-status medieval sites – see the previous section), while non-elite areas got the medium utility forelimbs (Kelly 1997, 2001). The feasting evidence comes from a large pit designated Sub-Mound 51. This was an old borrow pit unrelated to the later construction of Mound 51 that partially overlies it. It was rapidly filled around AD 1050-1100, and contains very large quantities of unbroken pottery, exotic artefacts etc (Pauketat et al. 2002). Deer form over 99% of the mammal bones. They are mainly the meat-bearing bones and have cutmarks indicating filletting; but many were not fractured for marrow, which suggests that so much meat was available that this resource was not worth bothering with. The presence of fly pupae and beetles indicates that some soft tissues still adhered to them. Swans, rare elsewhere at Cahokia, formed over 50% of the bird bones – but minus their wings (Kelly 1997; 2001, 347-350).

Tsoungiza is a high-status Late Mycenaean site in Greece. Sheep were generally the most common animal at this time (Halstead 1992), and Tsoungiza is similar until the Late Helladic III phase, when part of the site may have been a rural shrine. Cattle in this phase rise to 33% of the total, and in the shrine dump itself they form 52% (Halstead in press). Skeletal element frequency in the shrine dump is unusual: most limb bones are missing (Dabney et al. 2004; Halstead in press). The distribution of animal limbs at feasts so the participants can take them away is commonly attested ethnographically – for example for pigs among numerous New Guinea peoples (e.g. Bulmer 1976, 180; Rappaport 1968, 214; Williamson 1912, 78; Young 1971, 265-8), and for buffalo among the Toraja of Sulawesi (Crystal 1974, 139). Furthermore, at Tsoungiza the sheep do *not* show this pattern, so the cattle pattern is unlikely to be due to skulls being brought to the site: it is more likely that their limbs were distributed among the participants. The ceramics at Tsoungiza have unusually high proportions of painted sherds from drinking vessels, open serving dishes, and large vessels perhaps intended for dignitaries. These factors are all argued to be consistent with feasting (Dabney et al. 2004).

Visiting royalty with large retinues are a blight that high-status places have been subjected to all over the world, from pre-contact Hawaii (Kirch 2001, 178) to medieval Ireland (O'Sullivan 2004, 52). But the hosts may gain prestige from the

visit. Acton Court in England was a long-lasting high-status site, visited on 21-23 August 1535 by no lesser a personage than King Henry VIII (Rodwell and Bell 2004). His visit stands out clearly in the archaeological record. The east range was built specially, and has been dendrochronologically dated to 1535 (Haddon-Reece and Miles, in Rodwell and Bell 2004). The rubbish in the moat has many deer and rabbit bones in the mid-16th century layers (Levitan and Bell, in Rodwell and Bell op. cit.). The ceramics include many exotic Ligurian and Spanish wares probably bought specifically for the royal visit (Vince and England, in Rodwell and Bell op. cit.). Henry is known to have liked Venetian glassware, and the moat contains a great deal: 'the number of vessels is staggering for a single gentry household…. One even wonders if deliberate breakage of the glassware could have formed part of the ritual of such a visit' (Courtney, in Rodwell and Bell op. cit., 333-4). But all that extravagance worked: Nicholas Poyntz, the owner of Acton Court, was knighted that same year.

These examples all stand out as being unusual even against the backdrop of the ongoing high-status activities in the sites where they are found, and thus qualify as OTT feasts.

(b) ritually charged garbage (RCG)

In Hawaii, 'the detritus of religious feasts might be given special treatment, for such ritually charged garbage could be dangerous to those who came into contact with it' (Kirch 2001, 169). Anthropological examples are rare, but when found archaeologically the RCG category stands out clearly.

At the Late Mycenaean Palace of Nestor at Pylos, large numbers of cattle mandibles, humeri and femora were dumped after being filletted – but they were not fractured for marrow. They were burnt after deposition, and rapidly covered (Halstead and Isaakidou 2004). At the Iron Age site of High Pasture Cave in Scotland, the bones of some 12 pigs were filletted but not fractured for marrow, and then placed in a narrow underground cave, which was then sealed (Armstrong and Rowley-Conwy in prep.). At the Roman temples at Great Chesterford in England, the mandibles, feet, and some forelimbs of very young sheep were dumped in pits inside the precinct; most limb bones were unbroken (Legge et al. 1992). In all these cases the bones were cached 'out of harm's way', and were not gnawed by dogs. Such RCG deposits are perhaps the clearest examples of unusual, 'special' deposits encountered by zooarchaeologists.

Trophy arrays might after public display become RCG. I am aware of no ethnographically documented case, but since the 185 cattle skulls in the Irthlingborough barrow and the wild boar mandibles in the Gotland graves (see above) were demonstrably *not* all killed at the time of the burial, they could have formed trophy arrays. The same might be true of the very large number of cattle skulls in the graves at Kerma, discussed above. If trophy arrays reached the end of their symbolically potent lives, disposal in a ritually charged context would be one possible way of terminating them.

(c) small but special (SBS)

Small feasts may involve single animals, no special paraphernalia, and just a handful of people. The debris will likely be disposed of like other rubbish, but may still display unusual treatment, allowing SBS feasting to be recognised.

At the OTT feasts at Tsoungiza (above), carcasses were partitioned. This practice is sometimes visible in more normal contexts. At the Neolithic site of Bożejewice 22 in Poland, most pits contained domestic refuse including caprine and pig bones. Some clay-lined pits however contain mainly cattle bones. The axial skeletons predominate, limb bones being relatively rare, suggesting that cattle were the basis for collective feasts at which the limb bones were distributed. The caprines do not show this pattern (Marciniak 2005, 241-242).

At the OTT feast at Cahokia Sub-Mound 51, and the RCG feasts at Pylos, High Pasture Cave and Great Chesterford, many limb bones were unbroken, suggesting that the glut of meat meant that the marrow was not exploited. This is also visible at some normal sites. At Late Neolithic Runnymede in England, most bones were broken into small fragments so that the fats could be processed. Some were however not smashed like this, but show heat-cracking and have their ends broken for marrow extraction. The heating was done after the meat was removed, evidently in order to warm the marrow for consumption (Serjeantson 2006). Similar treatment of some bones occurs on other Late Neolithic sites (Rowley-Conwy and Owen 2011). This treatment is unusual, and suggests that on some occasions a superfluity of meat was available – i.e. that small feasts were taking place. A rare ethnographic observation supports this: at the feasts of the Kalam of New Guinea, 'whether or not people bother to smash long bones in order to extract the marrow depends on how much meat is available. The host-group… would often not do so, but guests who take meat home for consumption, and also family groups killing individual pigs, would almost always do so' (Bulmer 1976, 180). SBS feasts are thus sometimes archaeologically visible.

(d) was this feasting? (WTF)

WTF deposits are instances where some aspects seem to be unlike 'normal' zooarchaeological material, while not falling clearly into any of the categories put forward above.

Two examples are Makriyalos and Domuztepe, from the Late Neolithic of Greece and Turkey respectively (Pappa et al. 2004; Kansa et al. 2002, 2009). Both are unusually dense concentrations of faunal remains in large pits. This immediately raises the issue of taphonomy: to what extent are these deposits 'different' because they happen to have survived in pits? The density of finds argues against this: hundreds of animals are present at Makriyalos, although the pit filled in a few years or less (Pappa et al. 2004, 22). Domuztepe contained far fewer animals but filled in a few weeks (Kansa et al. 2009, 163). At both, cattle were more common in the pits than elsewhere on the settlements, and at both the ceramic assemblages were somewhat richer and more varied than elsewhere. The bones in both were butchered and marrow-fractured. At Domuztepe large numbers of human bones were also present, while they appear to have been excluded at Makriyalos. Both are likely to be feasting debris (Pappa et al. 2004; Isaakidou and Halstead in press; Kansa et al. 2002; 2009).

Late Bronze Age middens in southern Britain are included in this section because, while the evidence for feasting is pretty conclusive, the nature of the sites is uncertain. The sites comprise large middens without evidence of a settlement. Pigs are sometimes unusually common, although animal proportions vary. The animals were brought to the sites alive because the middens are composed primarily of animal dung. They are regarded as feasting sites (Sharples 2010). Potterne covers 3.5 ha and is 1.5 m deep, and excavation produced 134,000 animal bone fragments (Lawson 2000); if the whole site had been excavated the bone total might be above 13 million fragments (Madgwick et al. 2012). At Runnymede many of the pig bones were not split for marrow (Serjeantson 1996), but this trait is not mentioned for the other sites. One curious aspect of butchery is that longitudinal or sagittal splitting of the vertebrae is noted at Llanmaes (Madgwick and Mulville 2015), Potterne (Locker, in Lawson 2000), and Runnymede (Done 1980). Perhaps the animals had to be divided exactly into halves, for equal sharing between different groups of visitors. At Llanmaes pig right forelimbs considerably outnumber the other limbs, so perhaps limbs were distributed among the participants as described above; this feature is not mentioned for any of the other sites, however. Varying quantities of bronze cauldrons, shale jewellery, and other high-status items, are found. These heterogeneous sites should probably be interpreted as 'out-of-town' feasting centres, visited intermittently for this sole purpose.

The Early Neolithic causewayed enclosure of Windmill Hill in England is more enigmatic. About 30 separate dumps of animal bone were found in the ditches (Pollard, in Whittle et al. 1999, fig. 53). Some have argued that many longbones were not split for marrow at causewayed enclosures (Thomas 1999, 27), but a recent study has shown that most were processed just like bones on settlements (Parmenter et al. 2015). A few remain intact, and can sometimes be refitted into articulating limbs (e.g. Grigson, in Whittle et al. 1999, fig. 165), but they were *not* found in articulation during the excavation. These thus correspond to the unbroken bones indicating SBS feasts, found among 'normal' waste. The main animal species occur in the same proportions as on settlement sites such as the Eton Rowing Course (Jones, in Allen et al. 2013), so there is no indication that any species was 'special' food. The bone groups were covered quite rapidly, so the ditches may have acted as protective taphonomic traps. The bones do not mark themselves out as unusual in any way except that they are found in the ditches of non-domestic enclosures.

The Late Neolithic henge at Durrington Walls has produced rather clearer evidence. Pigs are unusually common, outnumbering cattle by 10:1 (Parker Pearson et al. 2011, 86). Isotopes reveal that the cattle were brought to the site from a wide area of southern Britain (Viner et al. 2010). Many of the pig bones are unbroken (Albarella and Serjeantson 2002, table 5.3), once again suggesting that a glut of meat made marrow fracturing unnecessary. Detailed studies of seasonality show that the pigs were killed in winter, suggesting a calendric connection for the feast (Wright et al. 2014). These factors between them make the case for feasting very strongly. However, the 2004-7 excavations created a complication: they revealed that the bones are associated not with the henge itself, but with a large village underlying it. This village could have housed the workforce that constructed Stonehenge 2 (Wright et al. 2014, 52; Parker Pearson et al. 2013; 2015). The labour force would need supplies from a wide area. But it is not clear why is there so much feasting evidence associated with a labourers' encampment. An instructive comparison is with the labour force that

erected the only archaeological sites that arguably outshine Stonehenge. The pyramids at Giza were built by huge workforces. Menkaure's pyramid required perhaps 10,000, and their work camp at Heit el-Ghurab has produced very large numbers of animal bones as well as the large corral into which cattle were driven to await slaughter (Redding 2010, 2013). The bones were however broken into small fragments like material on 'normal' settlements (Richard Redding, personal communication 30 September 2017). The Durrington Walls bones are not what would be expected at the workcamp of a provisioned labour force.

The WTF category thus a covers a range of cases intermediate between the clear feasts discussed above, and 'normal' settlement refuse. The unusual frequencies of cattle at Makriyalos and Domuztepe, and the sheer volume of bone, does suggest feasting, but their other attributes are less unusual. At the causewayed enclosures the bone assemblages are more remarkable for their location than for any 'unusual' characteristics. Durrington Walls has recently become more problematic and needs further elucidation.

LINKING ETHNOARCHAEOLOGY AND ZOOARCHAEOLOGY

In this section I discuss the categories into which ethnographers have divided recent feasts, and then put forward a tentative linkage between these categories and the archaeological categories discussed above.

Ethnographic categories of feasts

There are various ethnoarchaeological classifications of feasts. An early attempt was by Hayden (2001, 54-58), who presented four broad classes:

(1) *minimally distinctive feasts,* at the smallest end of the scale;

(2) *promotional/alliance feasts* involving the whole group and stressing social solidarity; large-scale preparation facilities and specialised serving vessels may also feature;

(3) *competitive feasts* involving more prestige items and specialised serving vessels, sometimes the intentional destruction of valuable items, and/or specialised structures;

(4) *tribute feasts* at the largest end of the scale, frequently calendric, and characterising chiefdoms or early states.

Most feasts archaeologists deal with are likely to fall into categories (2) and (3). The major difference between these categories is that promotional/alliance feasts emphasise social solidarity, while competitive feasts emphasise the social pre-eminence of individuals. Hayden's later (2014; 2016) categorisations differ somewhat, and he is more concerned with the use of feasts by people seeking to acquire or maintain pre-eminence – people whom he labels *aggrandizive* – but the fundamental distinction remains. Dietler (2001, 70-85) describes the same spectrum, from *empowering feasts,* which may not involve social domination, although they are arenas in which some individuals can acquire social credit; as against *patron-role* and

diacritical feasts which reinforce the rankings of social orders legitimise social power.

Various other typologies have been produced. Adams (2004, 61) distinguishes between *solidarity feasts*, which reinforce group solidarity and for which the community pools its resources, and *promotional feasts*, at which a host provides the resources and seeks thereby to enhance his own social position. A major difference between the two is that promotional feasts create a reciprocal debt relationship between host and guest, while solidarity feasts do not (Adams 2004, 61).

These dichotomous categories have been criticised by Twiss (2008; 2015), who argues that all feasts are *simultaneously* arenas for competition between individuals, and arenas for social intergration. 'One motive or another is often forefronted, but multiple functions are commonly served' (Twiss 2008, 419). Smith (2015) broadly accepts the initial distinction between feasts sponsored by individuals or households in order to reinforce inequalities, and feasts involving many individual contributions and the pooling of food to reinforce social solidarity. However, she goes on to stress the number of ways in which these intended purposes can be derailed by the contrary intentions of individuals through breaches of etiquette, unwanted distractions, or violence.

These problems were to a considerable extent recognised by the original proposers of the feasting categories. They recognised that most feasts combine aspects of solidarity and aspects of promotion (Adams 2004, 61; Hayden 2001, 57). Even at ostensible solidarity feasts, individuals have their own agendas: "feasts conceived sincerely by the participants as harmonious celebrations of community identity and unity are *simultaneously* arenas for manipulation and the acquisition of prestige, social credit, and the various forms of influence, or informal power, that symbolic capital entails" (Dietler 2001, 77).

To what extent do the objections to the typology prevent archaeologists categorising feasts as fundamentally of 'solidarity' or of 'promotional' type? Twiss regards the complexity as disabling:

> 'We archaeologists do have real trouble separating the different categories of feasts, not only because it is difficult to come up with sufficient archaeological criteria, but also because single feasts serve multiple social functions. If we segregate different types of feasts into separate categories, we verbally efface the multifaceted nature of many events…. At present, I have no solution to this dilemma' (Twiss 2015, 97-8).

However, if we (a) start from the fundamental dichotomy between feasts that are sponsored by individuals who provide the food, and those to which many different people bring food which is pooled; and (b) regard solidarity and promotional feasts as the two ends of a spectrum rather than absolutes – the categorisation does form a useful heuristic dichotomy.

Linking archaeology and ethnography

If we accept that solidarity and promotion feasts lie at the opposite ends of the spectrum, a tentative hypothesis can be put forward based on what the two types of feast are designed to do, and how they might express this in material terms:

- Solidarity feasts are acts intended to enhance social cohesiveness between individuals and groups, not just at the time of the feast but lasting into the future. A material record of the feast therefore has potency for as long as it survives in visible physical form. One possible form a material record could take is the prominent trophying of animal parts. Any material output that is not part of the symbolic record of the feast is of no importance, and would be treated as normal rubbish. Since social differentiation is downplayed, prestige items will not significantly be displayed or destroyed, and will not therefore be a part of the archaeological record of the feast.

- Competitive feasts are acts intended to enhance the social difference between individuals, by creating a debt relationship not just at the feast but lasting into the future. The nature of the debt relationship will however *vary from individual to individual*; the debt may be repaid in different ways, and at different times, by different people. In this context a single all-encompassing material record of the feast is not relevant. The record of the feast is in the form of social memory – memory of prestige objects displayed, distributed to individuals, or destroyed; of luxury foods provided to individuals; and of debts consequently owed *by individuals*. The material residues of the feast as a whole are therefore unimportant and treated as normal rubbish – which will however contain high-status items broken or deliberately destroyed during the feast. The exception would be where the act is legitimised or supercharged with religious connotations, in which case the material residues might become ritually charged.

This hypothesis suggests that solidarity feasts may result in the trophying of animal parts, but the rest of the detritus will form normal refuse. Competitive feasts will however *not* result in the trophying of animal parts – all the detritus will form normal refuse, but will contain an abnormal quantity of the prestige items, which after the feast become redundant. The exception involving ritually charged detritus may lead to the refuse being sealed away from human contact.

It must be stressed that this hypothesis is extremely tentative, and it is beyond the scope of this paper to explore it in any depth. There are however hints that it might have some validity. The New Guinea societies that create the trophy arrays listed in table 2 all have ‘big men’ or ‘men of renown’ who may own more pigs than other people (see e.g. Reay 1959, 114-120; Young 1971, 109-113; Sillitoe 2003, 301; Barth 1975, 107-122) but none of these authors describe the kind of aggrandizive behaviour that occurs in competitive feasts. Many of the Southeast Asian societies that trophy buffalo bucrania are more hierarchical and indulge in competitive feasts. The bucrania may however derive from feasts closer to the solidarity end of the feasting spectrum. Hayden (2016, fig. 3.25) illustrates a trophy array, and specifically links arrays to village solidarity feasts (op. cit., 110). Adams (2004, fig. 4) illustrates a Torajan display, stating that these mark ‘household contributions of water buffaloes at past funeral feasts’ (op. cit., 65). This is an area that needs further exploration. At all events, the rest of the feast detritus is simply discarded like the other rubbish (Hayden

2016, 115). In New Guinea also, non-trophied parts of ritually cooked animals are simply hung up in trees, and rapidly fall to the ground and disappear (Bulmer 1976, 178-9).

This pattern may have its counterpart in the zooarchaeological record. In the event that the unimportant rubbish happened to be thrown away into an old open pit, a WTF pattern like that at Makriyalos and Domuztepe would be the result. It has been argued that, since the evidence for a hierarchical society in Late Neolithic Greece is modest, Makriyalos at least may represent detritus from large regional feasts intended to maintain social solidarity rather than emphasise inequalities (Pappa et al. 2004, 41; Halstead and Isaakidou 2011). If so, then trophying of animal parts might be predicted. Trophy arrays would rarely be expected to survive (see above) – but there is some evidence that suggests that bucrania might have been displayed at some Greek Late Neolithic sites (Halstead 2012, 31). The ceramic assemblage is somewhat more varied than at normal settlements, but this could be accounted for simply by the catering requirements associated with the feast. High-status items are not present.

Other WTF manifestations are less clear. At the causewayed enclosures, it is the enclosures themselves that are the main indicators of 'special' status. The faunal and other remains dumped in the ditches do not appear to have been the result of competitive feasts: species are in the expected proportions, and high-status items are absent. The hypothesis put forward here suggests that trophy arrays might have been erected at these sites, a possible avenue for future research. The Late Bronze Age feasting sites like Potterne and Llanmaes give contradictory indications. The metalwork and jewellery, and the large numbers of pigs, are high-status indicators suggesting competitive feasts. Isotopes in the pig bones reveal that the animals were not however kept in a specialised herd, but were raised in various different ways and in different places (Madgwick and Mulville 2015). This is more suggestive of groups pooling their resources. However, the Late Bronze Age/Early Iron Age transition was a period of social change and unrest (Lawson 2000; Sharples 2010), so perhaps the conflicting indications should not surprise us. These feasts might really have seen conflicting agendas on the part of different individuals and groups.

The WTF instances stand in marked contrast to the OTT and RCG categories. OTT refuse is dumped just as haphazardly as WTF non-trophied refuse, but it contains all the status-reinforcing devices that WTF refuse lacks: exotic high-status display items (Cahokia Sub-Mound 51); elaborate ceramics related to feasting (Tsoungiza); or high status items apparently deliberately broken (Henry VIII at Acton Court). Often the bones were unbroken, testifying to a glut of meat, or some parts are missing, indicating that it was distributed. These characteristics are however also found in SBS debris, and would be expected to appear sometimes in WTF debris too. These characteristics therefore testify to feasting, but do not tell us what kind.

The RCG deposits are those most clearly visible in the archaeological record. Dangerous or 'charged' material is absolutely not (if the hypothesis put forward here is valid) what should result from a solidarity feast. Whether such material results from the activities of a social elite or a religious elite, or if (cf. the quote from Grant at the start) these two cannot be separated, is uncertain. It is likely to result from variants of competitive feasts.

CONCLUSION

The approach taken here does not start from theory and proceed from the top down. The author is a zooarchaeologist, and the approach is specifically zooarchaeological, proceeding from the bottom up. I have sought to erect a typology of zooarchaeological remains that are likely to indicate that feasting was carried out. Based on ethnographic case studies I have hypothesised that the residues from competitive feasts and solidarity feasts should be somewhat distinct. If both these parts of this contribution have any validity, they can be combined to argue that we can sometimes distinguish between the surviving traces of competitive and solidarity feasts in the archaeological record. Future work will hopefully demonstrate whether or not there is any substance to this approach.

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Table 1. Numbers of pigs killed in various contexts in New Guinea.

ethnic group or location	context	number of pigs killed	reference
Kuma	pig ceremony	700	Reay 1959
Massim	village festivals	10, 19, 10, 10	Young 1971
Mokei	pig ceremony	710	Roscoe 2009
Etoro	various	45 per year, many occasions	Kelly 1988
Tsembaga	two-day festival	96	Rappaport 1968
Nimai Waula	over 12 months	55 over 42 occasions	Hide 2003
Mafulu	feast, 7 villages	135	Williamson 1912
Grand Valley Dani	pig feasts	21, 91, 150	Heider 1972
Kubo	feast, other	6 at feast, others single	Dwyer 1993
Irakia Awa	feasts, other	16 at feasts, others 1-3	Boyd 1984
Tifalmin	initiations	1 or 2	Wheatcroft 1976

Table 2. Number of pig mandibles trophied by various New Guinea groups. Numbers in brackets are mandibles counted from the cited illustration. Otherwise totals are as given in text or tables.

ethnic group or location	context	number of pig mandibles	reference
Baktaman	cult house	(≥16)	Barth 1975 pl. 17
Koita	one man's house	33	Seligmann 1910
Masa'ingle	men's house	(≥40)	Lawrence 2010, fig. 30
Wopkaimin	men's houses	19, 18, (≥179)	Hyndman 1991, fig. 4
Tifalmin	men's houses	150, 155, >700	Wheatcroft 1976
Mountain-Ok	spirit houses	6000, 5000, 1500, 1000, 800, 600, 60, 50	Craig 1969
	men's houses	2000, 1600, 1400, 1200, 1200, 800, 700, 600, 300, 38, 37, 12	
	family houses	60, 50	

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